

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A process for the preparation of water insoluble, bio-release iron-manganese polyphosphate fertilizer, which comprises

a) heating phosphoric acid at a temperature ~~of at least~~ above 160°C with a mixture of (i) a source of iron oxide such as including one or more substance selected from the group consisting of goethite and hematite, (ii) pyrolusite and (iii) one or more basic compound(s) selected from the group consisting of oxide(s), ~~or~~ and carbonate(s) of magnesium, calcium, sodium and potassium, for a time period ranging from 20 min to 2 hr, thereby producing a liquid which has an appropriate degree of incomplete polymerization as characterized by ~~its chemical properties~~ solubility in 0.33M citric acid and 0.005M DTPA of the neutralized product in stage (b), followed by

b) neutralization of the liquid polyphosphate then

c) drying the neutralized material to obtain a solid and

d) pulverization.

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2. (Original) A process as claimed in claim 1 wherein the iron oxide and pyrolusite are used in any of the molar ratios $\text{Fe} : \text{Mn} = 1 : 0.1$ to $0.1 : 1$.

3. (Currently amended) A process as claimed in claim 1 wherein if the basic compounds ~~used~~ are selected from the group consisting of oxides, ~~or~~ carbonates of magnesium, ~~or~~ and calcium, the molar ratios of $\text{Fe} : \text{Mg/Ca}$ ~~may be~~ anywhere are between $1 : 0.6$ to $1 : 1.75$.

4. (Currently amended) A process as claimed in claim 1 wherein if the basic compounds ~~used~~ are selected from the group consisting of oxides, ~~or~~ and carbonates of sodium ~~or~~ and potassium, the molar ratios of $\text{Fe} : \text{Na/K}$ ~~may be~~ anywhere are between $1 : 1.2$ to $1 : 3.5$.

5. (Original) A process as claimed in claim 3 wherein the basic compound is the oxide or carbonate of magnesium.

6. (Currently amended) A process as claimed in claim 1 wherein the phosphoric acid is of strength up to 60% P_2O_5 ~~is used for the reaction~~.

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7. (Currently amended) A process as claimed in claim 1 ~~claims 1 to 6~~ wherein the phosphoric acid used is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

8. (Original) A process as claimed in claim 1 wherein the polymerization reaction (a) is carried out at a temperature of 200-250°C.

9. (Currently amended) A process as claimed in ~~claim 1~~ claim 8 wherein the extent of polymerization is judged by chemical tests of the solubility of the neutralized polyphosphate in organic chelates selected from the group consisting of 0.33M citric acid and 0.005M DPTA ~~in organic chelates selected from citrate, DTPA or EDTA.~~

10. (Currently amended) A process as claimed in claim 1 wherein the liquid polyphosphate product is neutralized with a base to any pH within 5 to 7.5 ~~3 to 9.5.~~

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11. (Currently amended) A process as claimed in claim 1 ~~stage (b)~~ wherein the base for neutralization in step (b) is selected from the group consisting of magnesia, magnesium carbonate, lime and ammonia.

12. (Original) A process as claimed in claim 11 wherein the base for neutralization is ammonia.

13. (Original) A process as claimed in claim 1 wherein the neutralized polyphosphate is dried to a solid form at temperatures not exceeding 100°C.

14. (Original) A process as claimed in claim 13 wherein the dried solid is pulverized to a powdery form.

15. (Currently amended) A solid, water insoluble fertilizer which is a ferric manganic magnesium ammonium polyphosphate, where the magnesium ~~may~~ be is replaced by calcium, sodium or potassium and the ammonium ~~may be~~ is replaced by magnesium, calcium, sodium or potassium, where the polyphosphate is only partially polymerized, and which possesses the property of high solubility in solutions of 0.33M citric acid or 0.005M DTPA ~~organic chelates such as citrate, DTPA or EDTA~~ and thereby contains nutrients in plant available form.

16. (Currently amended) A process as claimed in claim 2 wherein the phosphoric acid ~~used~~ is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

17. (Currently amended) A process as claimed in claim 3 wherein the phosphoric acid ~~used~~ is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

18. (Currently amended) A process as claimed in claim 4 wherein the phosphoric acid ~~used~~ is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

19. (Currently amended) A process as claimed in claim 5 wherein the phosphoric acid ~~used~~ is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

20. (Currently amended) A process as claimed in claim 6 wherein the phosphoric acid ~~used~~ is in an amount equal to or greater than that required to convert all cations in the reaction mixture to ~~the~~ dihydrogen orthophosphates.

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21. (Cancelled)